distally than in *rileyi;* second and third joints equilateral like the following ones, not oblique with one side produced as in *rileyi*; second joint sensibly shorter than the third; third slightly longer than the fourth; fourth to ninth about equal in length, but the distal joints narrower than the proximal; terminal joint similar to the penultimate one, whereas in *rileyi* the last two joints are dissimilar. Prothorax as in *rileyi*, shining, sparsely punctured; elytra about as in *rileyi*; covering at the sides about two-thirds of the first abdominal segment. Hind margins of abdominal segments narrowly testaceous; surface of segments shining, with broad shallow punctures. At the sides the ventral segments encroach upon the dorsal area, the dorsoventral sutures being marked by deep sublateral channels. Legs as in *rileyi*; claws simple, with a strong basal bristle.

Hab. — Mesilla, New Mexico, about the first of August, 1896, on a wall in which were many nests of *Anthophora vallorum* (Ckll.). This was sent at the time of its discovery to Dr. Horn, and it is much to be regretted that he did not live to publish an account of it. When recently in Philadelphia, I found it in Dr. Horn's collection, and was able to draw up the above description. *L. neomexicana* is very distinct from *Hornia minutipennis*, and quite sufficiently so from *Leonia rileyi*, as the following table of the North American Sitarini shows: —

Antennae 11-jointed; head, thorax and legs bright ferruginous.

Hornia minutipennis Riley.

Antennae 10-jointed.

Black; elytra fulvous; second and third antennal joints equilateral.

Leonia neomexicana Ckll.

Dark ferruginous; elytra testaceous; second and third antennal joints conspicuously inequilateral

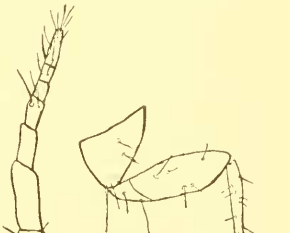
Leonia rileyi E. Dugès. (Mexico.)

All three are parasitic in nests of *Anthophora.*

T. D. A. Cockerell.
N. M. Agr. Exp. Sta.

A NEW PULVINARIA FROM MASSACHUSETTS.

Pulvinaria cockerelli, n. sp. ♀ Scale yellowish brown, small, nearly hemispherical in outline, slightly convex, 4 mm. long, $3\frac{1}{2}$ mm. broad. Ovisac 7 mm. long, 3 mm. broad and a little more than 1 mm. in thickness. Texture soft, clear white, powdery and sticky. Eggs small oval, white, situated in an oval cluster on the under side of the leaf beneath the ovisac. Newly hatched larvae clear white. ♀ Scale cleared and mounted transparent slightly tinged with yellow. Legs, antennae, mouthparts and anal plates light yellow. Antennae 8 segmented, 3 quite long, 4 next, 7 is the shortest (see table of measurements all in micromillimeters). The hairs on the antennae are as represented in the drawing, usually 18. The length and breadth of the antennae seem to be quite constant in all of the material examined. Legs normal. Coxa broader than long, the legs usually have about 22 hairs on each (see figure of leg). Marginal spines stout, bulbous



Antenna. Leg.

at base, tips sharp, 6 micromillimeters long, they are very easily lost in mounting.

Hab. — On the under side of the leaves of *Spiraea salicifolia*, at Methuen, Mass., and on the under side of the leaves of *Prinos verticillatus*, at Andover, Mass., 1898 (in the woods at each place). The young begin to appear about July 10 and the full grown scale with ovisac the following May. The scales become dry and drop off about the last of June, none can be found in July. When I sent this coccid to Prof. Cockerell last year, he, then being very busy, made a hasty examination of my mount and scales with ovisac. Some of the ovisacs did not have any scales, and I did not state this to him at that time. The mount showed the antennae to be almost indentical with those of *Lichtensia viburni* Sign., and he supposed it to be a variety of that species. Being later doubtful of this, he requested me to study the insect with better material, and the result has been to prove that it cannot belong to Lichtensia, as it does not have the scale covered with its ovisac.

Antennal Segments.

	1	2	3	4	5	6	7	8
Length	56	44	88	60	44	28	24	52
Width	80	56	36	28	24	20	20	16

Formula 3418(25)76.

Measurements of Leg.

	Coxa	Femur with Trochanter	Tibia	Tarsus	Claws	Tarsal Digitules	Claw Digitules
Length	112	264	176	84	24	60	36
Width	140	92	44	28	28		

G. B. King.

Lawrence, Mass.

JANET'S RECENT OBSERVATIONS ON ANTS, ETC.

Several recent papers * by Charles Janet, the well known authority upon ants, wasps, and bees, deserve mention. All are written in the concise and clear style characteristic of the author.

In Note 17, nine classes of glandular organs are defined, of which the integumentary system alone comprises eight pairs: (1) Unicellular glands opening separately at the bases of the antennae. (2) Well developed unicellular glands with a common reservoir at the base of either mandible. (3) Maxillary glands. (4) Labial glands, derived from the larval silk glands. (5) Glands of the median segment, possibly odoriferous to enable members of the same colony to recognize one another. (6) Poison glands of the female, also accessory glands, alkaline in reaction, serving — the author suggests — neither to lubricate the sting nor to complete the composition of the poison, but to neutralize superfluous formic acid remaining upon the insect itself. (7) Glands of the sheath, also represented by certain glands in the male. (8) Glands of the ninth segment.

All the integumentary glands except the poison glands secrete alkaline fluids which are believed to protect ants from the deleterious effects of their own formic acid. Thus, Janet finds that formicaries give an alkaline reaction which varies in rapidity and strength according to the species of ant and

* Note 17. Système glandulaire tégumentaire de la Myrmica rubra. Observations diverses sur les Fourmis. 30 pp. 9 figs. Paris, 1898.

Note 18. Aiguillon de la Myrmica rubra. Appareil de fermeture de la glaude à venin. 27 pp., 3 pls., 5 text figs. Paris, 1898.

Note 19. Anatomie du corselet de la Myrmica rubra reine. Mém. soc. zool. France, 1898. pp. 393-450, pl. 6, 25 text figs.

Extr. comptes rend. séances acad. sc. : —

No. 12. Sur une cavité du tégument servant, chez les Myrmicimae, à étaler, au contact de l'air, un produit de sécrétion. T. 126 (1898), 4 pp.

No. 13. Réaction alcaline des chambres et galeries des nids de Fourmis. Durée de la vie des Fourmis décapitées. T. 127 (1898), 4 pp.

14 Sur un organe non décrit servant à la fermeture du réservoir du venin, et sur le Mode de fonctionnement de l'aiguillon chez les Fourmis. T. 127 (1898), 4 pp.

No. 15. Sur le mecanisme du vol chez les Insectes. T. 128 (1899), 4 pp.